



SAMPLE CHM NEWSLETTER

October, 1995

AMERICAN PERSONAL COMMUNICATIONS

Assuming the project goes as planned, by the time you receive this newsletter APC will be the first company to provide commercial personal communications services (PCS) in the country when its network of more than 300 base stations in the District, Maryland, Virginia and West Virginia becomes operational.

PCS is a new generation of mobile wireless communication services which promises to integrated voice, messaging (paging) and data services into a single package. In theory, PCS networks use smaller base stations than what cellular uses, and thus permit smaller, lighter and lower-cost handsets with longer battery life. PCS devices will take the form of pocket and car phones and computing devices designed for e-mail, paging, fax and data services.

The FCC allocated two 30 MHz-wide PCS licenses in the 2 GHz (2,000 MHz) band in each of the nation's major trading areas. APC received the country's first broadband experimental PCS license in 1990. Not only will APC compete with local cellular providers, Cellular One and Bell Atlantic Mobile, it will also face-off against AT&T Wireless Services, APC's future PCS competitor in the Washington market.

Microwave users have operated in the 2 GHz band for years and must be accommodated in markets, such as Washington, where PCS providers offer service. APC will employ "Pathguard," a Frequency Agile Sharing (FAS) technology which allows PCS and microwave users to peacefully coexist.

APC claims that PCS will cost less than current cellular service and will offer a high-quality alternative to cellular. APC's network, unlike the analog and digital cellular formats currently used in America, will employ Global System for Mobile (GSM) communications technology, a digital format which is popular in Europe and Asia.

Digital technology will allow APC to offer increased security. "Our network uses an encryption technique that is very difficult to crack," stated APC's president in a magazine interview. "Fraudulent use of numbers will be very difficult, reducing costs -- costs that are today in effect passed on to customers.... You won't have people picking up cheap scanners and ESN decoders and getting into the system," he stated.

A short-messaging (paging) service will allow subscribers to receive 160-character alphanumeric messages. APC says it will offer "circuit-switched data" as part of every handset sold. Subscribers will need a PCMCIA card to connect a computer notebook to the PCS device. Packet data services will follow within about a year. The system will offer 9600 baud rate at system turn-on and 19200 baud in about a year.

Network equipment for APC is being provided by Ericsson, Inc. and Northern Telecom Ltd. APC will sell handsets manufactured by Nokia, Motorola and Ericsson. Some manufactures are expected to design handsets which will work on both cellular and PCS systems. APC's handsets will feature two-line capability, allowing for business and personal lines which can be billed separately. There will be a range of call screening options, permitting the user to accept calls from only selected individuals at selected times.

APC plans to launch its PCS service under the Sprint brandname. PCS will be available nationally by mid-1996. Sprint, Tele-Communications, Inc., Comcast Corp. and Cox Enterprises are financially backing APC. The Washington Post Co. sold most of its stake in APC several months ago. For more information on APC, call 301-214-9200.

MONTGOMERY COUNCIL ENDORSES HIGH-TECH TRUNKED SYSTEM

During an October session, after more than a year of research, the Montgomery County council approved the procurement of an 800 MHz trunked radio system. The council, says Sue Richards of the office of legislative oversight, approved a 20-channel digital 866-869 MHz system but left open the option to purchase an 851-861 MHz system should the frequencies become available.

Montgomery County and one other jurisdiction filed an application for the 18 851-861 MHz channels currently licensed to the District. The District has requested that the FCC grant the city an extension, although the city has yet to start building its proposed trunked system.

The Montgomery County police chief, chief administrative officer and other government managers support moving to an 800 MHz system citing such benefits as high-tech data-ready equipment, simulcast transmitter coverage, interoperability, the need for more less-crowded channels, increased privacy and radio discipline, the ability to deactivate phantom radios, more reliability and system redundancy, and better system management and accountability.

County Police Chief Carol A. Mehrling expressed her support for the trunking system in a seven-page memorandum to the council. "The present 490 MHz police radio system is unencrypted," she wrote, "allowing anyone with an inexpensive scanner to monitor police dispatches and communications. In our increasingly technological society, criminals are using these scanners to monitor police activities thus gaining a tactical advantage that aids their enterprises, avoids apprehension, and in the worst case, could result in the injury or death of an officer."

"The 800 MHz radio system," she claimed, "would allow for encryption when necessary to provide flexibility in dispatch and communication of sensitive information. To add this to the present 490 MHz system would represent additional expense."

Frederick G. Griffin, a consultant, estimated that the 866-869 MHz system would cost \$29.4 million to build while an 851-861 MHz system would cost \$26.4 million. The \$3 million estimated cost difference between the two 800 MHz systems is attributed to the regulatory design constraints of the 866-869 MHz channels. The 866-869 MHz channels are controlled by the regional planning committee and have more contour and boundary limitations forcing lower power operation which increases the number of transmitter sites needed to cover the county.

The council also considered upgrading the existing radio systems as well as trunking the UHF channels. The upgrade, Griffin reported, would have cost an estimated \$24.9 million. Trunking the UHF band was not feasible because of regulatory hurdles that would have to be overcome and because of the special equipment that would be required.

Griffin stated that no additional tower sites nor higher towers would be necessary for the 866-869 MHz system. The 866-869 MHz system, he said, would require 15 transmit sites. The county already has access to those sites. The 851-861 MHz system would only need eight sites and the VHF/UHF upgrade would require 10.

The trunked system will likely include all radio-equipped county agencies, with the possible exception of Ride-On. Montgomery County has invited the Maryland Park police and the county's municipal governments to join the system.

According to the expenditure schedule, problems with the current radio systems include: lack of coverage for portable and mobile radios, lack of system capacity, lack of easy interoperability between users, little ability to interface with new law enforcement technology, aging infrastructure, and difficulties coordinating with changes in mutual aid channels.

The council consulted several plans and studies including: Radio Communication Study, June 1990; Fire Service

Radio Task Force Study, January 1992; Montgomery County Radio Communications Master Plan, March 1994; MITRE Communication Study, January 1995; and Frederick Griffin Study, March 1995. The Office of Legislative Oversight issued a 29-page memorandum which discusses the four options the council considered. For a copy of the report, send Alan a reply envelope with three stamps or provide a fax number.

Funding remains the same as what the council allocated last year for the radio system upgrade (refer to the June 1994 issue for details). Although the council allocated funding last year for a radio system upgrade, it wasn't certain until now which option the county should pursue. The Department of Information Systems and Telecommunications is expected to issue an RFP for the system early next year. From that point it will probably take at least two years before county agencies can start using the system.

BALTIMORE CITY TRUNKED SYSTEM UPDATE

As mentioned in past CHM newsletters, Motorola is in the process of building a trunked radio system for the City of Baltimore. During November, says a fire communications staffer, Motorola met with the city to work out the project's timeline which officially started Jan. 1. The fire department will be the first agency to use the trunked system, followed by police and public works. The system is reportedly going to be digital.

Frequencies tentatively allocated to the city are: 866.1125, 866.2, 866.225, 866.35, 866.4375, 866.625, 866.6625, 866.825, 866.85, 866.875, 866.9, 866.9375, 867.15, 867.175, 867.2125, 867.4, 867.4375, 867.4625, 867.825, 867.9, 867.925, 867.9875, 868.1, 868.125, 868.15, 868.175, 868.2, 868.3, 868.45, 868.5625, 868.625, 868.7, 868.7375, 868.875 and 868.95.

The national mutual aid channels (866.0125, 866.5125, 867.0125, 867.5125, 868.0125 and 868.5125) and the Baltimore regional interservice (RINS) channels (866.1625, 866.4125, 867.3125, 867.6625, 867.3375 and 867.9625) are also available to the city.

CHANGES AT SHADOW TRAFFIC

When Shadow Traffic lost its contract with WTOP a few months ago, it forced the network off the two WTOP radio frequencies, 450.35 and 455.65, which it had used since starting in the Washington market. As of this writing, Shadow Traffic hopes to land a contract with WMAL, which is currently a Metro Traffic affiliate.

The Shadow Traffic team now communicates on 450.2375 with a DCS of 754. Metro Traffic had used 450.2375 in past years to feed remotes to its studio. Shadow provides syndicated traffic reports to several area stations including WBIG, WGMS, WHFS, WINX, WKCW, WMMJ and WOL. Shadow reporters also communicate using a leased trunked radio system in the 936-940 MHz band. Talkgroup and frequency assignments are as follows:

1 936.6750 (simplex)
1A: 936.5125, 936.5250, 936.5375, 936.5500, 936.5625, 936.5750, 936.5875, 936.6000, 936.6125, 936.6250
2A: 938.0125, 938.0250, 938.0375, 938.0500, 938.0625, 938.0750, 938.0875, 938.1000, 938.1125, 938.1250
3A: 935.5125, 935.5250, 935.5375, 935.5500, 935.5625, 935.5750, 935.5875, 935.6000, 935.6125, 935.6250,
936.7625, 936.7750, 936.7875, 936.8000, 936.8125, 936.8250, 936.8375, 936.8500, 936.8625, 936.8750
4A: 939.2625, 939.2750, 939.2875, 939.3000, 939.3125, 939.3250, 939.3375, 939.3500, 939.3625, 939.3750

Many thanks to Shadow reporter Jonathan Whitbey for keeping us up-to-date.

NEW RADIO CODES FOR DC FIRE!

Last month the District's fire department started using medical priority dispatch system (MPDS) classification codes, called Clawson codes, when dispatching EMS runs. The codes consist of a two-digit number followed by a letter and a single-digit suffix, such as 10-A1, 29-A1, 31-D1 and 32-B3. The codes are named for Jeff Clawson, who one communications division official described as the guru of computer aided dispatching. We hope to have more details regarding these codes in a coming newsletter.

MYSTERY FREQUENCIES -- WE NEED YOUR HELP!

UNIDENTIFIED MARINE CORPS STATION?

On 148.325 we occasionally monitor a Morse code identifier that transmits the letters "MCS" -- which suggests it is a Marine Corps Station. The system averages two or three radio transmissions each day. The audio received in Silver Spring is distorted which makes identification difficult. Please monitor and let us know what you hear.

FREQUENCY FOUND FOR FREDERICK'S WALMART

Larry Cordell says the frequency for the new Walmart store in Frederick is 154.6. Thanks Larry!

ANOTHER JAIL FREQUENCY?

The frequency used for MPD's command channel, 460.425, appears to be also in use by another agency which uses it simplex. Only the base is received in Silver Spring. The signal probably originates from outside the Washington area. Some days it's active, other days it's dead. The personnel, who are often addressed as "officer," appear to be security or correctional facility guards. Conversations are usually radio checks and administrative chit-chat. The personnel appear to identify by number. 580 is Officer Barnett, 581 is Goodman and 583 is Francis. Who is this?

APARTMENT COMPLEX ON DC'S MED CHANNEL!

463.125 is supposed to be MED channel 6, the primary MED channel for the District of Columbia, reserved solely for EMS communication between ambulances and hospitals. But maintenance personnel at an area apartment complex make more use of the frequency than District EMS units. This phantom apartment complex has erected a repeater on 463.125 with the normal input of 468.125 and a CTCSS of 141.3 Hz. Maintenance personnel discuss repair of kitchen appliances, plumbing problems, painting, exterminating and general building upkeep.

They often refer to the buildings and apartments using a combined number. 3302-104, for example, would be building 3302, apartment 104. They often drop the "33" (or "34") since they only manage buildings in the 3300s and 3400s. Judging from the signal strength in Silver Spring and Northwest Washington, the repeater is probably in Southeast or central Prince George's County.

The apartments appear to have five floors -- at least the highest apartment number monitored so far is on the fifth floor. Here are the numbers (building, apartment) recorded so far: 3302, 104; 3304, 102; 3306, T3; 3310; 3314, 203, 405; 3324, 301; 3330, 202; 3340, 103; 3348, 203; 3350, 203; 3354, 202; 3360, 204; 3378; 3400, T2; 3402, T3; 3406, 303; 3408, 101, 102; 3410, 102; 3414, 103, 407, 501; 3416, 204, 501; and 3418, 102, 307.

The personnel identify by first name, with the occasional exception of the main office which identifies as "leasing office." Names include: Charles, Dave, Dewitt, George, Herb, Johnny, Judy, Kelly, Kevin, Reggie, Ron, Sundale and Vernon. Please help us locate this apartment complex!

UNKNOWN SECURITY COMPANY ON 464.875

Security personnel communicate over a repeater on 464.875 [131.8]. They use analog-style scrambling that is transmitted along with the CTCSS. In Silver Spring the repeater is barely receivable, but much better in Alexandria. Anyone know who this is?

MILLION MAN MARCH FOLLOW-UP

The Oct. 16 Million Man March brought some interesting listening to the nation's capital. The real challenge was finding the frequencies used by the march organizers. With several of us independently searching the radio spectrum, we found the below frequencies which the organizers used.

462.65 r [114.8]

464.70 r Input appeared to be 469.75

464.80 r [82.5]

469.80 s input to 464.8 and possibly used simplex?

If you were not monitoring these channels during the march, chances are you didn't miss much. The organizers arrived the night before and, by morning, it appeared that many of their radios were suffering from de-energized batteries.

462.65 [114.8] is actually the George Mason University repeater and 464.8 is a community repeater. The next time Louis Farrakhan comes to town they might be worth checking.

Radio designations used on 462.65 and 464.8 included: E-Eagle (Eagle 1, etc.), M-units (M1, M7), Command Post and Command Center. On 462.65 we monitored VIP protection, transportation and what sounded like some on-CTCSS encryption.

On 464.8, Joe Gallagher reported hearing organizers say they had run out of cash receptacles, and had a trunk (of a car) full of money. Joe also noted that 469.75 appeared to be the repeater input to 464.70 -- an unusual split.

Mike Peyton discovered numerous audio-video technicians communicating on numerous UHF splinter channels including 461.2625, 461.3, 461.45, 461.5125, 461.65 and 464.8125. Joe, who was positioned across the street from the Mall, monitored the CNN director giving cues on 476.2 (NFM).

PUBLICATION ANNOUNCEMENTS

After almost six years of work, the 534-page Washington-Baltimore Scanner Almanac is ready for purchase. The almanac covers virtually every radio-equipped federal, military, state, county, city and other municipal government agency in about a 45-mile radius of the nation's capital. It features channel plans, radio codes, fire/police station locations, maps, radio IDs, CTCSS tones, historical facts and more.

The primary geographic area covered by the almanac is the District; in Maryland: Anne Arundel, Baltimore City/County, Calvert, Carroll, Charles, Frederick, Howard, Montgomery, Prince George's, Queen Anne's and Saint Mary's; and Virginia: Alexandria, Arlington, Fairfax, Fauquier, King George, Loudoun, Prince William and Stafford.

The almanac, which was complied by Dr. Willard Hardman and Alan Henney, is available at EEB, Maryland Radio Center and Poptronics. The book is also available by mail for \$19.95 plus \$3 for book-rate shipping (or \$6 for first class). Call or write Alan for details.

As we go to print this month, the new fourth edition of Scanner Master's Washington guide is almost ready. Ken Fowler, one of the co-authors, says the long-awaited guide is going to press right now and will hopefully be available by Christmas at EEB. Unlike the Almanac, the Scanner Master guide covers all of Virginia, the District and Maryland.